

Uno ID Card Printer User's Manual

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Patent Pending

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Printing History

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For Users in the United States:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- Use of a shielded cable is required to comply with the Class A limits of Part 15 of the FCC Rules.
- You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate and/or obtain warranty service for this equipment.

For Users in Canada:

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

CAUTION!

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE. TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE EXTERIOR PANELS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. OPERATE THE UNIT ONLY ON 110-120 VAC, 50/60 Hz. FOR PRINTERS THAT HAVE BEEN SHIPPED OUTSIDE OF THE UNITED STATES AND CANADA, OPERATE THE UNIT ONLY ON 220-240 VAC, 50/60 Hz. USE PRINTER ONLY WITH THE INCLUDED POWER SUPPLY.

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Chapter 1: Getting Started

THANK YOU...

...for choosing the Uno ID Card Printer. This ultra-fast printer has been designed to print high-quality, monochrome ID cards using a variety of different resin ribbon spot colors. It offers many features which easily allow you to create durable photo ID cards complete with high resolution graphics, text, bar codes, and more.

To begin using Uno, please refer to the remainder of this manual. The Uno User's Manual is your complete step-by-step guide to efficiently setting up and printing with your new Uno ID Card Printer.

I. CHOOSING A GOOD LOCATION

- Place unit in a location with adequate air circulation to prevent internal heat build up.
- Do not place unit near heat sources such as radiators or air ducts or in a place subject to direct sun-light, excessive dust, mechanical vibration or shock.
- Allow for adequate clearance above the unit to accommodate the height of the unit with its Top Cover and Printhead Assembly open.

II. ABOUT MOISTURE CONDENSATION

If the unit is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense inside the unit. Should this occur, print quality may not be optimum. Leave the unit turned OFF in a warm, dry room for several hours before using. This will allow the moisture to evaporate.

III. UNPACKING AND INSPECTION

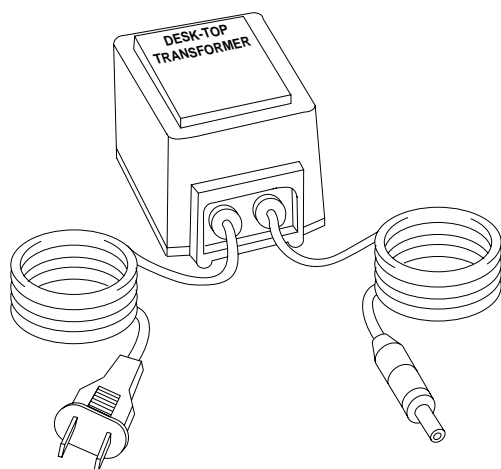
While unpacking your Uno ID Card, inspect the carton to ensure that no damage occurred during shipping. Also, make sure the following items are included:

- Printer
- Power Transformer
- Printer Driver Diskette (3.5")
- 32-Bit Print Spooler Diskette (3.5")
- Warranty Statement and Registration Card
- This manual and other printed information

Chapter 2: Powering Up the Printer

I. APPLYING POWER

1. Locate the “Desk-Top Transformer” supplied with your system. Check that it is properly configured for the power used in your country.

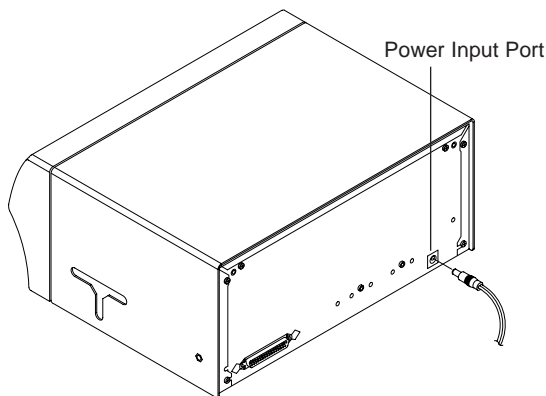


CAUTION! IF YOU HAVE ANY DOUBTS ABOUT THE PLUG CONFIGURATION OR THE VOLTAGE, DO NOT ATTEMPT TO USE THE PRINTER. CONTACT YOUR DEALER OR THE TECHNICAL SUPPORT NUMBER LISTED ON THE INSERT IN THIS MANUAL FOR INFORMATION ON THE CORRECT TRANSFORMER. USE YOUR PRINTER ONLY IF YOU ARE CERTAIN THAT THE PLUG AND POWER RATING ARE CORRECT.



THE UNO TRANSFORMER IS DESIGNED FOR DESKTOP USE ONLY.

2. Plug the DC power plug end of the transformer cord into the Power Input Port on the rear panel of Uno.



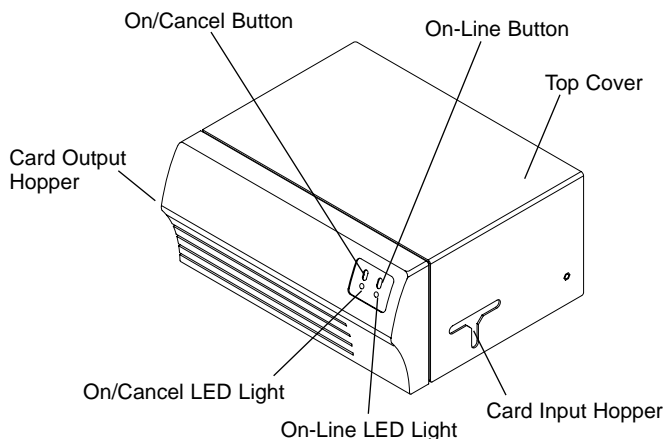
NOTE: *Optional external transformer must be a Listed Class 2 device with an output rating of 16.5 volts and 3.5 amps AC (alternating current). The alternating current should be between 50 and 60 Hz.*

3. Plug the AC power plug end of the transformer cord into an available wall outlet. The wall outlet should be located near the printer and should be easily accessible.

Power is automatically applied to the printer when it is plugged in. Press the on/cancel button if you wish to turn the printer OFF.

II. IDENTIFYING THE PRINTER FEATURES

This illustration shows the features found on the front of your Uno ID Card Printer.



The **on/cancel** button turns the printer ON and OFF. It also serves to cancel the current print job and reset the printer for the next print job. If a card is left within the printer after a print job is canceled, it will automatically be ejected when the printer is turned back ON.

The **on-line** button takes the printer on and off-line. The printer must have the on-line light illuminated in order to print. When flashing, the on-line light also serves to indicate a print error condition. Such conditions are discussed in Chapter 6 of this manual.

The **Card Input Hopper** is where blank cards are loaded. See Chapter 3, Section IV for complete instructions on loading cards.

The **Card Output Hopper** is where printed cards eject.

The **Top Cover** tilts from front-to-back to open and is how you access the inside of the printer to load cards and ribbon. See Chapter 3 for an illustration of how this cover opens as well as for instructions on loading print supplies. **Note that the Top Cover must be shut in order for Uno to print.**

Chapter 3: Ribbons and Cards

I. ABOUT RIBBONS

The Uno ID Card Printer uses resin-based ribbon rolls to produce its monochrome output. Black resin ribbons are available in both a premium and standard quality. The **Premium Resin Black (K)** ribbon provides maximum durability and is ideal for applications such as access control where cards are repeatedly swiped through a magnetic stripe reader. The **Standard Resin Black (K)** ribbon provides high durability ideal for most general purpose ID card applications.

In addition to black resin ribbons, Uno also provides a variety of other **Colored Resin** ribbons including blue, green, and red. A gold **Metallic Resin** ribbon is also available. All resin ribbons provide 1,000 prints. The black, blue, and green ribbons are capable of printing bar codes which can be read by both infra-red and visible light bar code scanners. Bar codes printed with the metallic gold ribbon can only be read by an infra-red bar code scanner. Bar codes printed with the red ribbon are **NOT** readable.

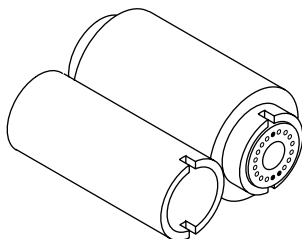
Please note that Uno requires specialized ribbons in order to function properly. To order additional ribbons, contact your authorized Uno dealer or contact the printer manufacturer directly.

IMPORTANT! *Watches, rings, bracelets, and other jewelry can damage the printhead if accidentally bumped against it. For best results, remove such items before installing or removing ribbons.*

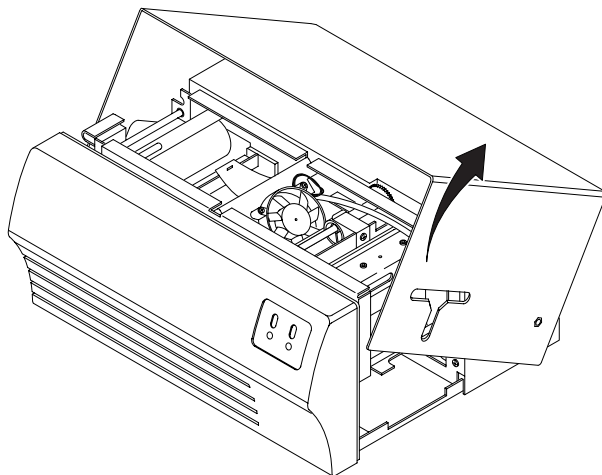
II. LOADING RIBBON INTO THE PRINTER

Follow these steps to load ribbon into the Printer:

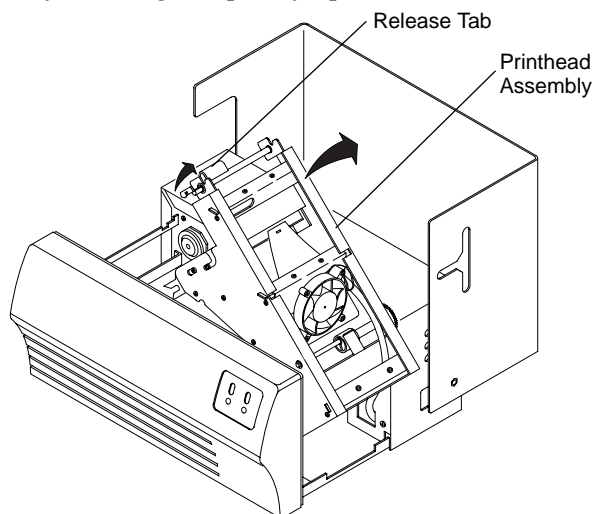
1. Remove the ribbon from its packaging. Do not touch the colored portion of the ribbon. Oil or dirt from your hands can impair print quality.



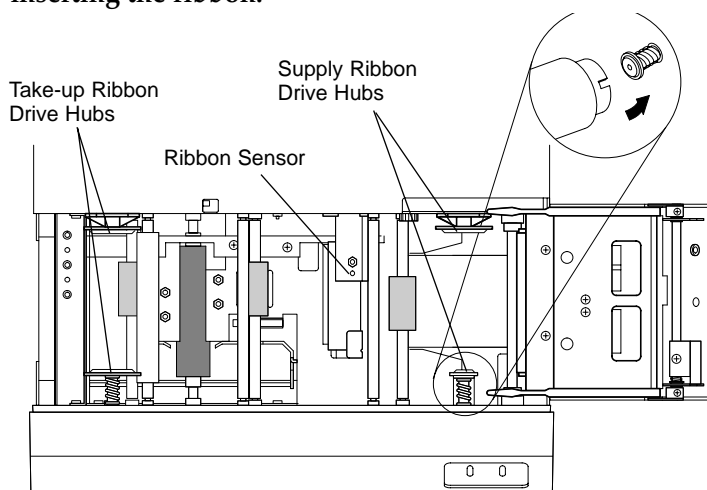
2. The supply end of the ribbon is the side with the fresh, unused ribbon on it. The ribbon take-up is the other end. Note that the black plug in the supply ribbon core must be present in order for Uno to print properly.
3. Open the Top Cover of the printer by gently grasping the front sides of the cover and lifting upward. The cover will tilt open from front-to-back.



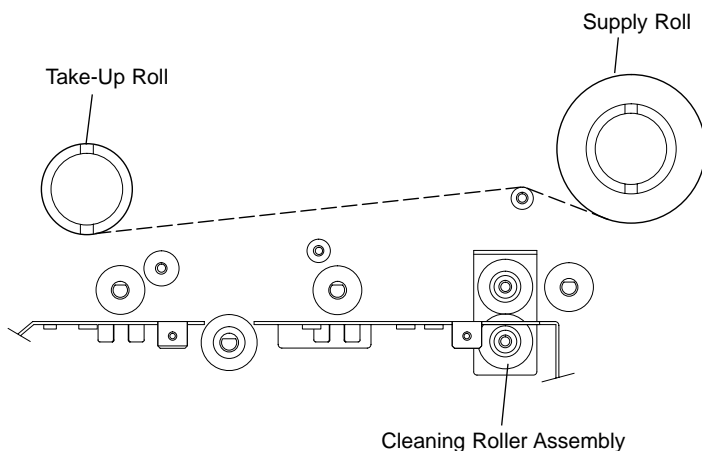
4. Open the Printhead Assembly by gently pulling up on the assembly's Release Tab and lifting upward. Allow the assembly to swing completely open.



5. Place the supply end of the ribbon in between the two black Ribbon Drive Hubs located on the right-hand side of the printer's interior. Make certain that the ribbon is fed from *underneath* the ribbon roll. **HINT: The Ribbon Drive Hub nearest you, as you are looking into the printer from the front, is spring loaded. Use the end of the ribbon supply core to push in this Ribbon Drive Hub when inserting the ribbon.**



6. Place the take-up end of the ribbon roll in between the two black Ribbon Drive Hubs located on the left-hand side of the printer's interior. Load the ribbon take-up end of the ribbon just as you loaded the ribbon supply end. When loaded properly, the ribbon should feed underneath both ends of the ribbon roll.



7. Grasp the Release Tab and gently lower the Printhead Assembly to close it. Lift slightly on the Release Tab to latch the assembly shut. Close the printer's Top Cover. When you start to print, the Ribbon Drive Hubs will automatically engage the notches on both cores of the ribbon roll.

IMPORTANT! Do not reverse the ribbon. Damage may occur to the thermal printhead!

III. ABOUT CARDS

The Uno ID Card Printer prints onto standard CR-80 size cards (3.375"L x 2.125"W x .030" / 86mmL x 54mmW x .75mm) which have a clean, level, polished PVC surface. Although Uno is equipped with card cleaning rollers, it is very important to always print onto cards designed for direct-to-card, thermal printing. For this reason, a special card stock is available which is specifically designed for printing with Uno.

This card stock provides a level, polished PVC surface free of fingerprints, dust, and any other types of embedded

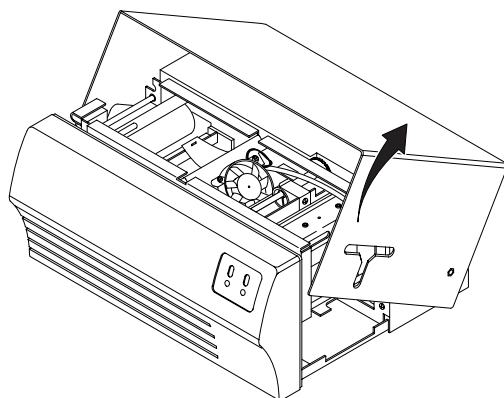
contaminants. In addition, this card stock is packaged and shipped in dust-free plastic bags. To order compatible card stock, contact your authorized Uno dealer or the printer manufacturer.

IMPORTANT! *Never run cards with a contaminated, dull, or uneven surface through the printer. Printing onto such cards will ultimately lead to poor print quality and will greatly reduce the life of your printhead. In addition, always store your card stock in its original packaging or in a clean, dust-free environment. Do not print onto cards which have been dropped or soiled. Printheads damaged by contaminated or poor quality cards will automatically void the printhead's factory warranty.*

IV. LOADING CARDS INTO THE PRINTER

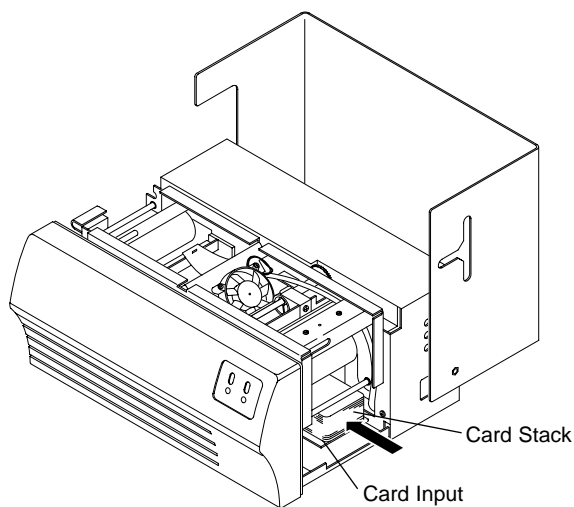
Uno holds a maximum of 50 CR-80 size cards in its Card Input Hopper. The printer will automatically feed each card off the top of the stack. To load the cards into the printer, refer to the following steps:

1. Open the Top Cover of the printer by gently grasping the front sides of the cover and lifting upward. The cover will tilt open from front-to-back.



2. Remove a stack of 50 or fewer cards from the card packaging. Do not touch the area of the cards on which you intend to print. Oil or dirt from your hands can impair print quality. Handle cards only along the edges.

3. Load the stack of cards into the printer by depressing the spring loaded Card Input Tray and pushing the stack all the way to the front of the Card Input Hopper. Always load cards with the top or primary print side facing up. **If inserting cards with a magnetic stripe, be sure the magnetic stripe is positioned downward and that the stripe is oriented toward the rear of the printer. If inserting smart cards, be sure the end of the card containing the smart card chip is inserted first.**



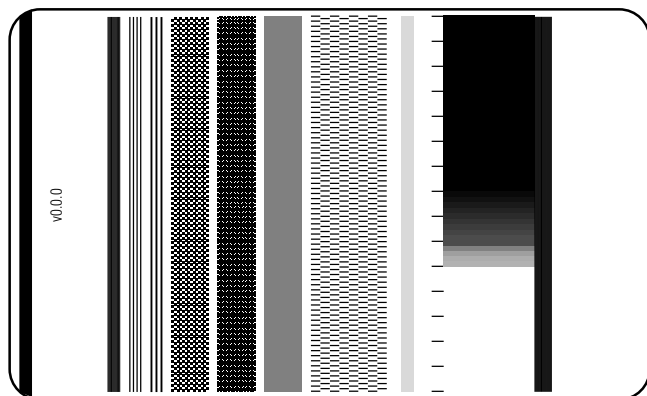
4. Once the cards have been inserted, remove the top card and throw it away if you suspect it has been contaminated with oil from your fingertips. Close the printer's Top Cover.

V. PRINTING A SELF TEST

Now that ribbon and cards are installed, a self test should be performed to check for proper operation of the printer. The standard self test function requires only that a ribbon and at least one card is installed. A sample of the self test pattern is shown on the following page.

1. If power is ON, turn it OFF now by pressing the on/cancel button. The LED indicator lights should no longer be illuminated. Verify that a ribbon is installed and that cards are properly loaded.
2. Press and hold the on-line button.

3. While holding the on-line button down, turn the printer power back ON by quickly pressing and releasing the on/cancel button.
4. Release the on-line button. The gray scale self test pattern will begin printing approximately 10 seconds after the on-line button is released.



Self Test Example: (Actual size)

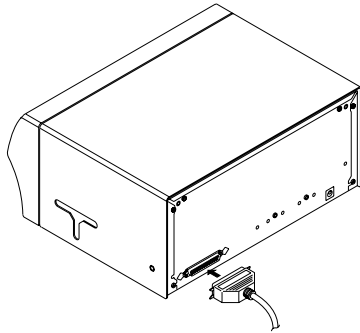
Chapter 4: Using the Uno ID Card Printer

I. CONNECTING THE PRINTER TO YOUR COMPUTER

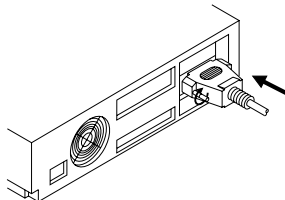
The Uno ID Card Printer is designed to be used with nearly any IBM-PC or compatible running Windows 3.1x or Windows 95. A minimum of a 486 DX class computer with 4MB RAM or higher is required. For best performance, a Pentium™ class computer with 8 MB RAM or higher is recommended.

The printer is equipped with an ECP-compatible, high-speed Centronics parallel port. This port is the means through which the printer receives data from your computer. To connect the printer to your computer, obtain a shielded, bi-directional parallel cable and refer to the following steps:

1. Connect the Centronics-type parallel side to the printer. Snap the fastening clips into place.



2. Connect the other side to the back of your PC at the PARALLEL connector.



The printer must have its on-line light illuminated to receive data. If the light is not ON, press the on-line button.

II. INSTALLING THE WINDOWS PRINTER DRIVER

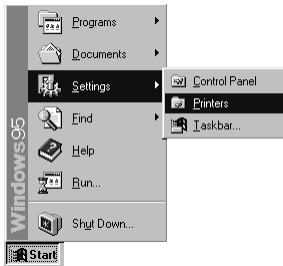
The Uno ID Card Printer can be used with virtually any Microsoft Windows 3.1x or Windows 95 software application program. Before printing, however, you must tell the application that you're using the Uno ID Card Printer. This is accomplished the first time you use the printer by installing in Windows what is called a "printer driver." The printer driver is simply a diskette with software on it that gives the printer the proper commands it needs in order to print. After you've installed the driver, put the driver diskette away in a safe place for possible future use.

NOTE: *This section of the Operator's Manual assumes that you are already familiar with Windows and know how it operates. If you are not yet familiar with Windows, consult the appropriate Microsoft documentation to become familiar with the basics of Windows before proceeding.*

Windows 95:

To install the printer driver into Windows 95, refer to the following:

1. Insert the printer driver diskette into your computer's disk drive.
2. Click the **Start** button, point to **Settings**, and select **Printers**.



3. Double-click on the **Add Printer** icon.



4. Follow the on-screen instructions to complete installation. When prompted, do not have Windows print a test print, since you most likely performed a printer self test in Chapter 3. Once installed, the “ID Card Uno” printer icon will appear in the Printers folder.



ID Card Uno

NOTE: Before installing updated printer driver versions, always delete the existing printer driver version from your system. To do this, simply select the printer driver icon from within the Printers folder, and press the Delete key.

Windows 3.1x:

To install the printer driver into Windows 3.1x, refer to the following:

1. After starting Windows, go to the Main program group and select **Control Panel**.
2. From the Control Panel, select **Printers**.
3. Select **Use Print Manager** from the bottom left of the Printers window.
4. Select the **Add>>** button.
5. Highlight the **Install Unlisted or Updated Printer** option from List of Printers.
6. Select the **Install** button.
7. Insert the supplied Printer Driver diskette into your computer's disk drive. If you insert the diskette in a drive other than the A: drive displayed in the Install Driver dialog box, you must change the drive designation. Select the **OK** button.
8. “ID Card Uno” should now be listed in the Add Unlisted or Updated Printer dialog box. Select the **OK** button. Your PC's disk drive will now load the printer driver. Depending upon your computer, loading will take about 10 to 20 seconds.
9. Select the **Set As Default Printer** button in the Printers window. The Uno ID Card Printer has now been selected as your default (main) printer. If you wish to use another printer later, you must de-select Uno and switch back to the other printer's driver.

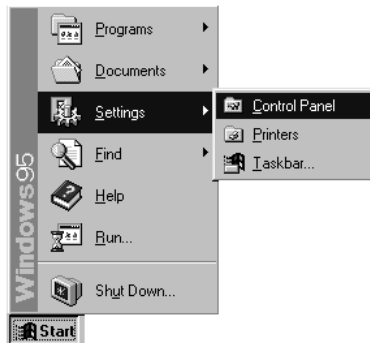
10. Finally, select the **Connect** button. Check that the box called **Fast Printing Direct to Port** is selected. Although this option is not necessary, it helps optimize printer driver speed and performance. Select **OK** to exit the Connect window. Select **Close** to exit the Printers window. See Section IV for information on printer driver settings and options.

III. INSTALLING THE 32-BIT PRINT SPOOLER FOR WINDOWS 95

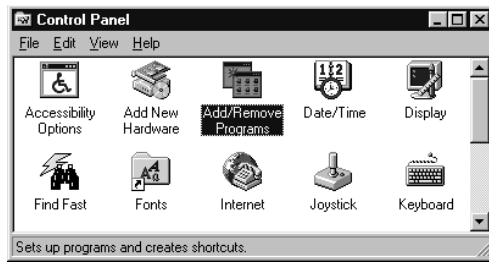
Your Uno ID Card Printer ships with a print utility program called the 32-Bit Print Spooler. This print spooler is for use only with Windows 95. Once installed, the print spooler is able to process your print jobs and send them to the printer at consistently faster speeds than if sending print jobs through the Windows 95 print spooler. This is especially true if printing with an ECP compatible parallel port or if printing off a network. The 32-Bit Print Spooler is ideal for printing a large number of consecutive ID cards, for printing larger file formats (1 MB or more), or if printing on a somewhat slower computer.

The 32-Bit Print Spooler installs just like any other standard Windows application program. To install the 32-Bit Print Spooler, refer to the following:

1. Insert the 32-Bit Print Spooler diskette into your computer's disk drive.
2. Click the **Start** button, point to **Settings**, and select **Control Panel**.



3. Double-click on the **Add/Remove Programs** icon.



4. Follow the on-screen instructions to complete installation. When installed, the 32-Bit Print Spooler will appear in the Programs group of the Start menu.



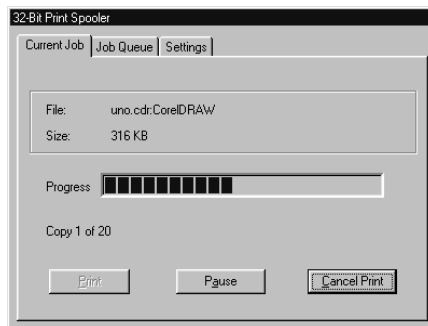
32-Bit Print Spooler

NOTE: Before installing updated 32-Bit Print Spooler versions, always uninstall the existing print spooler version from your system. To do this, simply select 32-Bit Print Spooler from the list of programs in the Add/Remove Programs Properties window and click on the **Add/Remove** button.

To print with the 32-Bit Print Spooler, you must select the Fast 32-bit Spooler option from within the printer driver setup window as described in Section III. When this option is selected, the print spooler will automatically open and close with the start and finish of each print job.

NOTE: You can also manually open the 32-Bit Print Spooler simply by selecting its icon from the Programs group of the Start menu.

When the 32-Bit Print Spooler is running, its icon will appear in the Windows 95 Task Bar. During a print job, it is sometimes helpful to click on this icon to bring the 32-Bit Print Spooler status window to the foreground of your application. This window provides a number of details about the print jobs being sent to Uno.



The **Current Job** tab tells you the name and size of the file printing, the progress of the overall print job, as well as the total number of copies left to print. It also provides buttons which allow you to pause or cancel the print job at any time during the printing process.

The **Settings** tab tells you the port and printer to which you are printing and also allows you to configure the timeout setting. In most instances, the settings under this tab rarely need to be changed.

The **Job Queue** tab appears only when a print job is being sent to the printer. This tab tells you the name and status of each job in the queue and shows you the order in which the jobs will print if you have sent multiple jobs to the printer. A control button is also provided which allows you to delete every job listed in the queue. To delete the job currently being printed, simply select the Cancel Print button under the Current Job tab.

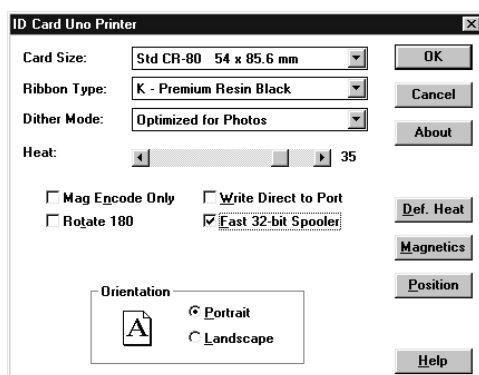
IV. SETTING UP THE WINDOWS PRINTER DRIVER

Once the printer driver has been successfully installed, you will need to set the driver up for the particular card size and type of ribbon you have installed in the printer. There are also several additional options that can be selected. Use the following steps to select the appropriate printer driver settings:

1. If using Windows 3.1x, go back to the Control Panel and the Printers group using steps 1 and 2 on page 15. If using Windows 95, Click the **Start** button, point to **Settings**, and select **Printers**. Then, click on the **ID Card Uno** icon with the right mouse button and select **Properties**. The Properties window will appear.
2. In Windows 3.1x, select the Setup button. In Windows 95, click on the Details tab of the Properties window and select the Setup button.

NOTE: *Most applications allow you to change these same printer driver options from their "Print" and/or "Printer Setup" screens. This means that you don't have to go back to the main printer setup window each time you want to change a setting or option in the printer driver. These applications will usually give you the same choices and options, but in a slightly altered format.*

3. The ID Card Uno Printer screen appears. Change the options as follows:



Card Size

Click on the Card Size down arrow. A list of card size selections will appear. The **Std CR-80** selection allows you to print and overlay the entire printable area of a standard CR-80 size card. The **Magstripe**, **Punch Offset**, **JIS II Magstripe**, and **Smart Chip** selections allow you to print and overlay only within the given card areas. These selections prevent you from printing over or damaging the area of the card containing the magnetic stripe, IC chip, or punched slot. Select the card size option that's appropriate for the type of card you are using (see Chapter 3, Section III for important card stock information).

Ribbon Type

Click on the Ribbon Type down arrow. A list of ribbon selections will appear. Select the ribbon type option that is appropriate for the type of ribbon you are using (see Chapter 3, Section I for further ribbon information).

Dither Mode

Click on the Dither Mode down arrow and select the appropriate dither method according to the type of image you are printing.

Heat

This option allows you to control the amount of heat used in the printing process. If output such as text or bar codes appears to be faded or sparse, increase the heat setting by clicking on the right-hand arrow. If output appears to be smearing, decrease the heat setting by clicking on the left-hand arrow. In most instances, the default or center setting should suffice.

Mag Encode Only

Select this option if you wish to send only the magnetic track data of a card format to the printer. This unique feature enables Uno to function solely as a magnetic stripe encoder so you can easily encode or re-encode preprinted cards without wasting additional time, effort, or printing supplies.

Rotate 180

This option allows you to rotate your image 180° when printed. Select this option if you wish to change the position of your image in relation to the set location of a card's magnetic stripe.

Write Direct to Port

Selecting this option provides the fastest print processing when printing exclusively from Windows 3.1x. When selected, this option allows the printer driver to bypass the Windows 3.1x Print Manager and to send all print data directly to Uno. This option devotes all of your system resources to the current print job, thereby increasing overall print speed. When the print job is finished, your system resources will again be released and devoted to the normal function of your on-screen applications.

Depending upon the processing speed and brand of your computer, you may or may not need to select this option when printing with Uno. For most computers with a non-ECP compatible parallel port, selecting this option will enhance the speed of the rasterizing and printing process. In this case, the **Write Direct to Port** option should be selected. For some computers, however, this option may either not be supported by the particular brand of PC or simply may not be necessary due to the PC's fast processing speed. In this case, the **Write Direct to Port** option should not be selected.

NOTE: *This option will not function properly if using any type of external printer buffer. When using a printer buffer, all print jobs should be sent through the system print spooler or through Uno's 32-Bit Print Spooler for Windows 95.*

Fast 32-bit Spooler

Select this option for consistently faster print processing. This option is only selectable if operating under Windows 95 and if the included 32-Bit Print Spooler software has been installed. When selected, this option allows the printer driver to send all print jobs to Uno's 32-Bit Print Spooler rather than to the Windows 95 print spooler. See Section III of this chapter for complete details on the 32-Bit Print Spooler. This option and the 32-Bit Print Spooler software will not function in Windows 3.1x.

Orientation

Select either **Portrait** or **Landscape**. Selecting **Portrait** causes the card to print in a vertical orientation. Selecting **Landscape** causes the card to print in a horizontal orientation. An icon illustrating a printed card helps represent the difference between the two.

Default Heat

Click on this button to reset the heat slider back to its original default setting.

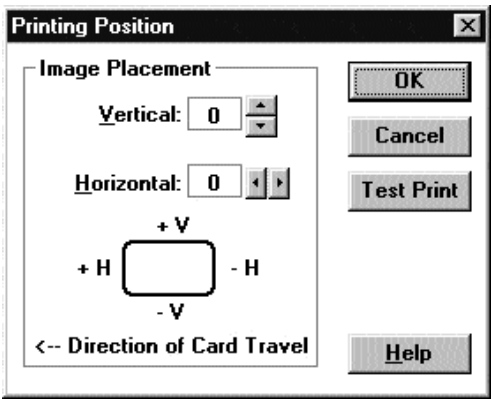
Magnetics

When magnetically encoding a card with Uno, the ISO standards for magnetic encoding will automatically be used. These standard settings will suffice for most encoding applications and rarely need to be modified. If modification is necessary, however, please see Appendix A for more information on the printer's magnetic encoding process.

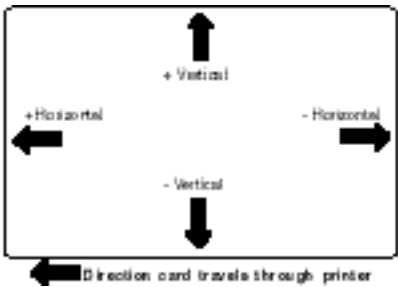
4. After your selections have been made, close out of the printer setup window. You are now ready to go to an application program and print. All printer driver options selected will stay the same until you change them.

Position

Select this button to display options for adjusting the placement of a card's overall print area.



When adjusting the image placement, keep in mind that cards always remain in the same position as they travel through the printer. The diagram below represents how the printed image will move in relation to the fixed card position as positive and negative image placement values are entered.



As you can see, the **Vertical** adjustment moves the image more toward the rear of the printer if a positive number is entered and more toward the front of the printer if a negative number is entered. The **Horizontal** adjustment moves the image more toward the card output side of the printer if a positive number is entered and more toward the card input side of the printer if a negative number is entered. The maximum value for either adjustment is ± 10 .

HINT Notice the direction the Vertical and Horizontal adjustment arrows point within the Printing Position window are representative of the direction the printed image moves on the card.

The Calibrate option also allows you to send a simple self test print to the printer by clicking on the **Test Print** button. This function will send a file named "IDTEST.PRN" which is automatically installed with the printer driver and stored in the c:\Windows\System directory.

This test print procedure can be helpful in assuring that your computer is effectively communicating with the printer and that the printer is functioning properly. If you would like to bypass your computer and print a self test directly from the printer, see the self test procedure described in Chapter 3, Section V.

NOTE If you would like to send your own test file, simply create a PRN file, name it "IDTEST.PRN," and save it in the c:\Windows\System directory in place of the existing IDTEST file. Be sure the appropriate print supplies are installed according to the Ribbon Type option you selected when the new PRN file was created.

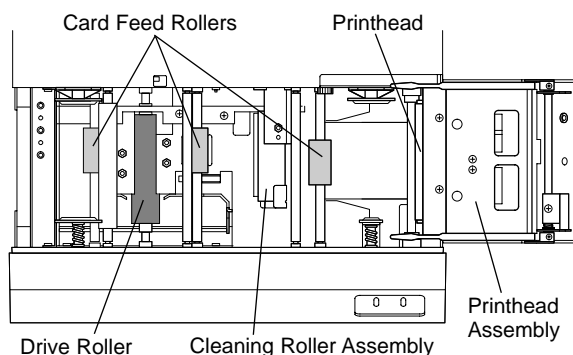
V. PRINTING A CARD

Now that you've set up the printer, loaded media, and installed the printer driver, you're ready to print an ID card. Follow these steps to print your first card:

1. Go to the Windows application program in which you will be creating your cards, and open or create a card format.
2. Once you are ready to print, select **Print Setup** (or the equivalent) from the program's File menu to verify that the printer driver settings are correct for your card design. Remember to select the proper card size and ribbon type and, if applicable, to verify that the proper magnetic encoding settings are selected. After you've properly configured the driver, select the **Print** button from the application's Print screen.
3. Uno's RIP (raster image processing) begins. The image processing time will vary depending upon the complexity of the image and the processing speed of your computer. In most cases, this will only take a few seconds.
4. After the image is processed and sent to the printer, the printer will feed in a card, print, and then eject the card. If everything looks good, you've successfully completed set-up, initial testing, and printing with your Uno ID Card Printer.

Chapter 5: Maintenance

Your Uno ID Card Printer is built to require a minimum amount of maintenance. Nevertheless, there are a few procedures you can perform on a regular basis or as needed to ensure the best possible performance. Use the illustration below to locate the items discussed within this chapter.



I. SUPPLIES REQUIRED

For the maintenance procedures outlined in this chapter, you will need the following items:

- Isopropyl alcohol
- Acetone
- Standard clear adhesive tape or masking tape
- Soft, lint-free cloth

Or, to make these maintenance procedures more convenient, a Printer Cleaning Kit is available from your reseller or from the printer manufacturer. This optional kit includes the following:

- **Printhead Cleaning Pens** pre-moistened with 99.99% isopropyl alcohol for cleaning your printer's printhead.
- **Cleaning Cards** with an adhesive backing for automatically cleaning your printer's gray card feed rollers and cleaning rollers.
- **Cleaning Pads** pre-moistened with 99.99% isopropyl alcohol for cleaning your printer's drive roller and general inside area.

- IMPORTANT!**
1. *Unplug the printer's main power cord before performing any type of maintenance procedure unless otherwise indicated. Also, never use a sharp tool or a metal object of any kind to clean the printhead. You will damage the printhead.*
 2. *Watches, rings, bracelets, and other jewelry can damage the printhead if accidentally bumped against it. For best results, remove such items before touching any internal components of printer.*
 3. *Internal components of the printer, such as the printhead, may be damaged if exposed to static electrical discharges generated by various means, such as walking on a carpeted floor. To avoid potential damage, always wear an appropriate personal grounding device, such as a wrist strap (w/ integral resistor) connected to an ESD ground. Or, at a minimum, make positive contact with the bare metal chassis of the printer with your hand prior to touching any internal electrical components.*

II. STANDARD PRINTHEAD CLEANING

This procedure should be performed if you notice a streak on the card where color was not transferred. This procedure should also be performed during every ribbon change or after every 250 prints in order to maintain consistent print quality.

1. Open the Top Cover of the printer by gently grasping the front sides of the cover and lifting upward. The cover will tilt open from front-to-back.
2. Open the Printhead Assembly by gently pulling up on the assembly's Release Tab and lifting upward. Allow the assembly to swing completely open.
3. If you observe dust and/or other particles laying on the top surface of the ribbon, manually roll it up into the take-up roll. Occasionally, dust may settle on the top surface of the ribbon and cause print quality problems.
4. Use a Printhead Cleaning Pen from the Printer Cleaning Kit or a soft, lint-free cloth *slightly* moistened with isopropyl alcohol to wipe dust and other accumulated particles off the surface of the printhead. If using a cloth, be extremely careful not to use too much alcohol. It must not be allowed to drip into the printer!

5. Once the printhead is completely dry, shut the Printhead Assembly and Top Cover. If a streak persists, perform the steps in Section III.

III. EXPANDED PRINTHEAD CLEANING

Perform if you have a streak on the printed output that can't be solved by the Standard Printhead Cleaning procedure. To maintain your printer's high quality of printing, this procedure should also be performed approximately every 2,500 prints as part of the printer's general maintenance program.

1. Open the Top Cover of the printer by gently grasping the front sides of the cover and lifting upward. The cover will tilt open from front-to-back.
2. Open the Printhead Assembly by gently pulling up on the assembly's Release Tab and lifting upward. Allow the assembly to swing completely open.
3. Use a soft, lint-free cloth *slightly* moistened with acetone to wipe off the surface of the printhead. Be extremely careful not to use too much acetone. It must not be allowed to drip into the printer!

CAUTION! *ACETONE IS A VERY POWERFUL SOLVENT. DO NOT APPLY ACETONE TO ANY OTHER AREA OF THE PRINTER, SINCE IT WILL DESTROY THE FINISH OF PAINT, RUBBER, AND PLASTIC.*

4. Allow the printhead to thoroughly dry before closing the Printhead Assembly and Top Cover. If a streak persists, contact your dealer or the technical support number listed on the insert in this manual for further assistance.

IV. CLEANING THE PRINTER'S CASE

Uno has a durable casing that should retain its luster and appearance for many years. Clean it only with a soft cloth slightly moistened with water or a mild soap. Do not use excess water or cleaning solvents of any kind. Never spray the cabinet with a cleaner. Rather, spray the cloth first, then wipe down the printer.

V. CLEANING THE INSIDE OF THE PRINTER

As you use Uno, dust and other foreign particles may accumulate inside the printer's case. These particles are attracted to the underside of the ribbon by static produced during printing and can cause voids on the printed image. Periodically, use the following procedure to remove dust and other foreign particles:

1. Open the Top Cover of the printer by gently grasping the front sides of the cover and lifting upward. The cover will tilt open from front-to-back.
2. Open the Printhead Assembly by gently pulling up on the assembly's Release Tab and lifting upward. Allow the assembly to swing completely open.
3. Remove the ribbon from the printer and set it on the ends of its ribbon cores.
4. Use a Cleaning Pad from the Printer Cleaning Kit or a soft, lint-free cloth *slightly* moistened with isopropyl alcohol to wipe out all visible areas inside the printer. Remove any debris that may be inside. **Be extremely careful not to let any alcohol drip inside the printer's case!**
5. Once the cleaned areas are completely dry and free of foreign debris, re-install the ribbon and close the Printhead Assembly and Top Cover.

VI. CLEARING A CARD JAM

If a card becomes jammed inside Uno, remove it through the following steps:

1. Leave the power ON and open the printer's Top Cover by gently grasping the front sides of the cover and lifting upward. The cover will tilt open from front-to-back.
2. Open the Printhead Assembly by gently pulling up on the assembly's Release Tab and lifting upward. Allow the assembly to swing completely open.
3. Remove the ribbon.
4. Press the on/cancel button to advance the card. Press the on-line button to reverse the card.
5. Once the card is cleared, re-install the ribbon and close the Printhead Assembly and Top Cover. If the on-line light is flashing, press and release it. Uno will save the print

information and resume printing with a new card. Remember, both the on/cancel and on-line lights must be ON solid in order for Uno to print.

VII. CLEARING A RIBBON JAM

If the ribbon becomes jammed in the drive roller (visible when you open the printer), use the following procedure to correct the problem:

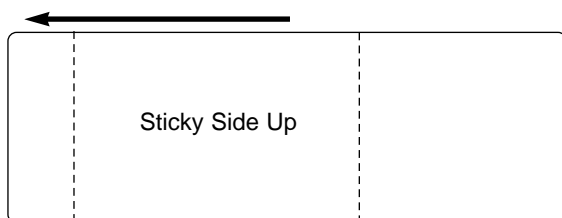
1. Leave the power ON.
2. Remove the Take-Up core (the side with used ribbon on it) from in between the two black Ribbon Drive Hubs.
3. Steadily pull the ribbon up and out of the printer as you press and hold down the printer's on-line button. This will rotate the drive roller backwards and eject the ribbon while you are pulling gently upwards. If the ribbon breaks, simply tape it back together making sure that it is fed from beneath both ribbon cores.
4. Once the jam is cleared, re-install the ribbon and close the Printhead Assembly and Top Cover. If the on-line light is flashing, press and release it. Uno will save the print information and resume printing with a new card. Remember, both the on/cancel and on-line lights must be ON solid in order for Uno to print. If the drive roller appears dirty after the jam is cleared, clean it according to the steps in Section IX.

VIII. CLEANING THE CARD FEED ROLLERS

To assure consistent printer operation, all of the gray card feed rollers within Uno should be cleaned during every ribbon change (every 250 prints) or if the rollers are noticeably dirty. To clean these rollers, use the special adhesive-backed Cleaning Cards from the Printer Cleaning Kit. Refer to the following steps to run a Cleaning Card through your printer:

1. Remove the ribbon and cards from the printer. The Cleaning Roller Assembly can remain within the printer during this cleaning process.
2. With the printer power ON, open the Top Cover, but leave the Printhead Assembly latched shut.
3. Remove the Cleaning Card's adhesive backing paper.

4. Press and hold the on/cancel button down. You will hear the feed rollers begin to turn.
5. While holding down the on/cancel button, insert the Cleaning Card into the Card Input Hopper and manually push it into the printer until you feel the printer's middle feed roller grab and begin feeding the card. When inserting the cleaning card, be sure that the shortest non-adhesive end of the Cleaning Card enters the printer first and that the side of the cleaning card with the adhesive backing removed (the sticky side) is facing upward. If the card is inserted with the sticky side facing downward, it will stick to the Card Input Tray and will not feed.



6. Keep pressing the on/cancel button until the Cleaning Card has fed completely through the printer. Repeat this cleaning procedure if necessary. After the cleaning procedure is finished, re-install ribbon and cards and turn the printer power OFF and ON to reset the printer.

NOTE: Once you have completed the above cleaning procedure, you should also clean the printer's Drive Roller according to the steps in the following section.

IX. CLEANING THE DRIVE ROLLER

Uno's Drive Roller should be cleaned during every ribbon change or after every 250 prints. This helps to prevent jams and maintain uninterrupted service. Also perform this procedure if the roller is noticeably dirty. Use the following steps to clean the roller:

1. Leave the power ON and open the printer's Top Cover by gently grasping the front sides of the cover and lifting upward. The cover will tilt open from front-to-back.
2. Open the Printhead Assembly by gently pulling up on the assembly's Release Tab and lifting upward. Allow the assembly to swing completely open.

3. Remove the ribbon, and locate the Drive Roller.
4. Use a Cleaning Pad from the Printer Cleaning Kit or a soft, lint-free cloth slightly moistened with isopropyl alcohol to wipe the roller clean. Press the on/cancel and on-line buttons to move the roller back and forth while cleaning.
5. After the roller is clean and completely dry, re-install the ribbon and close the Printhead Assembly and Top Cover.

X. MAINTAINING THE CLEANING ROLLERS

The Cleaning Rollers remove dust particles from a blank card as it feeds into the printer. Cleaning these rollers will help prevent contaminated cards from passing beneath the printhead, thus extending the printhead's life and allowing for higher quality output. The Cleaning Rollers should be cleaned during every ribbon change or after every 250 prints. Use the following steps to clean the rollers:

1. Open the Top Cover of the printer by gently grasping the front sides of the cover and lifting upward. The cover will tilt open from front-to-back.
2. Open the Printhead Assembly by gently pulling up on the assembly's Release Tab and lifting upward. Allow the assembly to swing completely open.
3. Remove the ribbon.
4. Locate the assembly labeled Cleaning Roller.
5. Reach down and grasp the end of the Cleaning Roller Assembly which is closest to the front of the printer. Lift this end first, and gently maneuver the assembly out of the printer.
6. Once the Cleaning Roller Assembly is removed, clean the rollers using one of the adhesive-backed Cleaning Cards from the Printer Cleaning Kit. With the card's adhesive backing paper removed, slide the card between the rollers until all dust particles are removed. If you do not have a Cleaning Card, use a piece of standard clear adhesive tape. Use the sticky side of the tape to lift dust from the rollers.
7. Once all debris is removed from the rollers, place the roller assembly back into the printer, replace the ribbon, and close the printer's Printhead Assembly and Top Cover.

Chapter 6: Troubleshooting

If you have difficulty operating your Uno ID Card Printer, the troubleshooting suggestions in this chapter should, in most cases, solve the problem. If you still have difficulty after trying these suggestions, contact the technical support number listed on the insert in this manual. Technical support representatives are available Monday through Friday, 7:30 AM to 5:30 PM Central Standard Time.

Please refer to the following possible symptoms and solutions to troubleshoot your Uno ID Card Printer:

The printer doesn't work at all.

Symptoms: Nothing happens or an error message comes up in the Windows application program.

- Make sure that the power cord is plugged in securely on both ends and that the printer is turned ON. Also, be sure the printer is on-line. The green LED below both the on/cancel and the on-line buttons should be illuminated.
- Make certain the printer's interface cable is securely connected.
- Make certain the Top Cover and/or Printhead Assembly is securely shut.

The on-line LED light is flashing.

This indicates a recoverable printing error regarding the print media or supplies. Refer to the following list for possible causes to this problem. Once the problem is corrected, press the on-line button to resume printing. (Or, if necessary, turn the print power ON and OFF by pressing the on/cancel button, and send the print job again.)

- Check that cards and ribbon are installed in the printer. Also, check that cards are pushed all the way into the printer and that the ribbon is installed properly.
- Check that the proper ribbon type is installed according to the ribbon type option selected in Uno's printer driver setup window (see Chapter 4, Section IV).
- Are you using a ribbon other than those sold specifically for use with Uno? Remember, Uno requires specialized ribbon rolls in order to function properly.
- Check for a ribbon or card jam. See Chapter 5, Section VI, VII for instructions on clearing a jam.
- If your printer has a magnetic encoding module installed and you are attempting to encode magnetic information onto a card while printing, a flashing on-line LED can also

indicate an encoding mis-verify. If information is not encoded properly or encoded onto a bad magnetic stripe, the printer is unable to verify the encoded data. When this happens, the printer will simply eject the card before printing begins and the on-line LED will begin flashing. Press the on-line button to resume encoding and printing with a new card.

The on/cancel LED light is flashing.

- If the on/cancel LED is flashing, this indicates a possible error with your printer's memory. Contact the technical support number on the insert in this manual for instructions.

I'm having problems printing from Windows 95.

- Print with either the **32-Bit Print Spooler** or the **Write Direct to Port** option selected from within the printer driver setup (see Chapter 4, Section IV for more information on these options). In most cases, one or the other of these options will provide the best results when printing from Windows 95.
- Due to the wide variety of PC hardware and software configurations, however, some systems may print more effectively through the Windows 95 print spooler. If you choose not to print with either the 32-Bit Print Spooler or the Write Direct to Port option selected, but instead wish to print through the Windows 95 print spooler, the following steps will help you optimize your system for printing:
 1. Click the **Start** button, point to **Settings**, and select **Printers**. When the Printers window appears, click on the Uno printer icon using the *right* mouse button, and select the **Properties** option.
 2. Select the **Details** tab, then select the **Spool Settings** button.
 3. Select the **Print directly to the printer** option and click on **OK**.
 4. Again from the Details tab, select the **Port Settings** button.
 5. Deselect both the **Check Port state before printing** option and the **Spool MS-DOS print jobs** option, and click on **OK**.
 6. Increase the **Transmission retry** value of the Details tab from 45 to **900**. Click on **OK** to close the Properties window.

The card or ribbon is jammed.

Symptoms: Printer makes strange sounds or stops printing, and the on-line LED light is flashing.

- Review the proper procedures for clearing ribbon and card jams in Chapter 5, Section VI, VII.
- If the ribbon is consistently being jammed down into the drive roller, you may need to reposition the Headlift Assembly. To do this, simply open the printer's Top Cover (DO NOT open the Printhead Assembly). With the printer powered ON, push down both the on/cancel and the on-line buttons at the same time. You should then hear the Headlift Assembly rotate and realign itself.

The ribbon has torn or even broken.

Symptoms: Printer stops printing or simply continues to wind the take-up end of the roll, and the on-line LED light is flashing.

- You may have tried to feed in a card that was too thick or perhaps two cards fed at once. This can sometimes cause the ribbon to tear or break. Remember, Uno is designed to feed and print primarily onto a standard CR-80 card size (3.375"L x 2.125"W x .030" / 86mmL x 54mmW x .75mm) and will not accept cards with a thickness greater than .040" (1.0mm).
- If your ribbon breaks, simply tape the broken end of the supply roll directly onto the take-up roll. Then, wind a few inches worth of ribbon from the supply roll onto the take-up roll. Be sure the ribbon is passing beneath both the supply and take-up rolls.

My prints have "streaks" in them.

Symptoms: Scratches or lines travel the entire length of the printed card.

- There may be dust on the printhead. Review the proper procedures for printhead cleaning in Chapter 5, Section II.
- There may be a scratch or a burned out element in the printhead. Contact your dealer or the technical support number listed on the insert in this manual for printhead replacement information.

My prints have "blotches" (small voids) in them.

Symptoms: There are small spots on the print with no ink.

- Most likely due to dust inside the printer. Review the procedures in Chapter 5, Section V for cleaning the inside of the printer.
- May also be caused by dust or embedded contaminants on the card. Be sure the cards you are using are clean and stored in a dust free environment. Some card stocks can

have embedded contaminants in their polished surface and should not be used. Only use card stock recommended for use with Uno (see Chapter 3, Section III for card stock information).

- May also be caused by a filthy Cleaning Roller. Refer to Chapter 5, Section X for instructions on maintaining the Cleaning Roller.

The card won't feed and the on-line LED starts blinking.

Symptoms: The printer starts to make noise like everything is fine, but no card feeds.

- Be sure the cards are inserted all the way into the printer and that you haven't inserted more than 50 standard sized cards.
- You are trying to feed a card that is too thick. Be sure the cards you are using fall within the .010" to .040" (.254mm to 1.0mm) accepted card thickness range.
- The gray card feed rollers are extremely dirty. Clean these rollers according to the directions in Chapter 5, Section VIII.
- Be sure the top card is not sticking to the one below it. Manually separate the cards if you suspect they are sticking to one another. If separating cards, remember not to touch the surface of the card where you intend to print, since dirt or oil from your hands will impair print quality.

The printing gets cut off or is not centered on the card.

- Check that the correct card size is selected in the printer driver setup. Improper card size settings will always send your image to the wrong area of the card.

Two or more cards feed at the same time.

- Be sure the cards you are using are not sticking together. Manually separate the cards if you suspect they are sticking to one another. If separating cards, remember not to touch the surface of the card where you intend to print, since dirt or oil from your hands will impair print quality.

Chapter 7: Technical Specifications

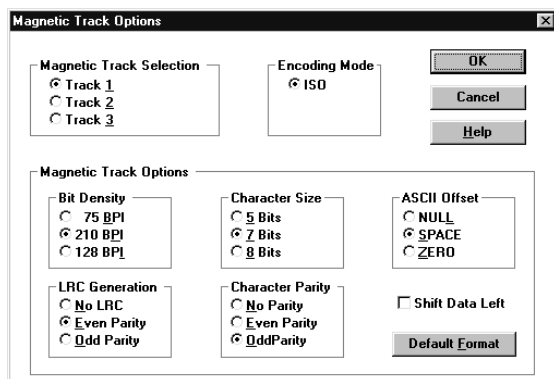
| | |
|---------------------------------|---|
| Print Method: | Resin thermal transfer |
| Print Resolution: | 300 x 300 dpi |
| Print Speed: | Approximately 5 seconds (K) |
| Colors: | Black, red, blue, green, or gold spot colors |
| Printing Area: | Standard CR-80 Card: <u>Card Size</u> 3.375"L (86mm) x 2.125"W (54mm) <u>Print Area</u> 3.21"L (81.5mm) x 2.02"W (51.3mm) |
| Accepted Card Width: | 2.1" to 2.13" W (53mm to 54mmW) |
| Accepted Card Length: | 3.25" to 3.37" L (82mm to 86mmL) |
| Accepted Card Thickness: | .010" to .040" (.254mm to 1.0mm) |
| Card Types: | PVC or Polyester cards with polished PVC finish |
| Card Capacity: | Accepts up to 50 standard CR-80 PVC Cards; auto or manual feed |
| Software Driver: | Windows driver included for IBM-PC's and compatibles |
| Interface: | Standard 8-bit Centronics-type parallel (ECP compatible) |
| Power Source: | 100/110/120 VAC, 50/60 Hz |
| Operating Temperature: | 65°F to 80°F (18°C to 27°C) |
| Humidity: | Non-condensing 20%-60% |
| Dimensions: | 12.19" L x 10.27" W x 5.88" H (310mmL x 261mmW x 149mmH) |
| Weight: | 15 lbs. (7 kg) |
| Agency Listings: | Electrical: UL 1950, CUL C2.2 and TÜV-GS (IEC-950) EMI: FCC Class A, CRC c1374 Class A, CISPR 22-B, TÜV-EMC CE: Self-certified based on IEC 801-2-3-4, CISPR 22-B and IEC-950 certification |
| Warranty: | One year |

Appendix A: Magnetic Stripe Encoding Module

I. INTRODUCTION

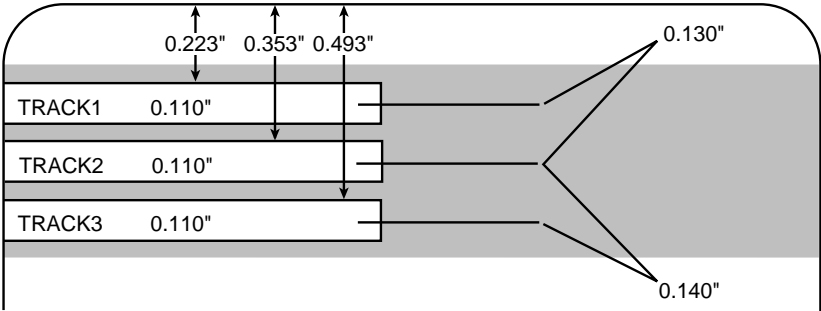
The Uno ID Card Printer has a Magnetic Stripe Encoding Module available as a factory installed option. Either a high or a low coercivity magnetic encoder is available (specify high or low when ordering). Both encoding modules will encode on Tracks 1, 2, and 3.

When encoding, the Uno ID Card Printer will encode according to the ISO standards for magnetic encoding. These standards are preset within the printer driver and will remain as the default until modified. Although these settings will suffice for most applications, it is possible to change or customize the printer's magnetic encoding process. To do this, simply select the **Magnetics** button from within the printer driver setup window and change the Magnetic Track Options according to how your specific magnetic stripe reading equipment is configured. This window is shown below. Please note that all options must be changed separately for each of the three individual tracks. To set these options back to the ISO standard settings once they have been changed, simply select the **Default Format** button for each of the separate tracks.



II. TRACK LOCATIONS

The magnetic encoding module encodes onto tracks in accordance with an ISO 7811-2 magnetic stripe. Refer to the following diagram for track locations:



III. SENDING TRACK INFORMATION

Magnetic track data is sent in the form of text strings from the application software to the printer driver along with all of the other printable objects within your card design. In order for the printer driver to differentiate between magnetic track data and the rest of the printable objects, the magnetic track data strings must be uniquely “tagged.” In other words, specific characters must be added to the magnetic track data in order for the printer driver to know which data is to be encoded, which tracks to encode, when the track data stops and starts, and so forth. In some cases, these specific characters are automatically added to the string of track data by customized ID software applications. In most cases, however, the user must manually add these characters to the string of magnetic track data. If these characters are not added to the track data, the text intended for the magnetic track will most likely appear as printed text on the card. To avoid this, track information must be entered as follows.

When entering track data, the “~” character is entered first, followed by the track number (1, 2, or 3) on which you intend to encode the data. The data to be encoded should then follow. The first character of this data string must be the track’s specific Start Sentinel (SS) and the last character must be the specific End Sentinel (ES). The characters or data in between the SS and ES can include all of the valid characters specific to each track. The number of these characters, however, is limited

by each track's maximum character capacity. When segmenting track data, the appropriate Field Separator (FS) must be used. The following table shows the SS, ES, FS, and the valid characters defined for each track.

| | Start Sentinel | End Sentinel | Field Separator | Valid Characters | # of Characters |
|---------|-----------------------|---------------------|------------------------|-----------------------------------|------------------------|
| Track 1 | % | ? | ^ | 0-9, A-Z, Punct. (ASCII 32-95) | 78 |
| Track 2 | ; | ? | = | 0-9, ,, =, ? (ASCII 48-63) | 39 |
| Track 3 | ; | ? | = | 0-9, ,, =, ? (ASCII 48-63) | 106 |

The following example illustrates how track data should be entered for tracks 1, 2, and 3:

Example: Sending data to Track 1
 ~1%JULIE ANDERSON^623-85-1253?

 Sending data to Track 2
 ~2;0123456789?

 Sending data to Track 3
 ~3;0123456789?

Appendix B: Interfacing Information

I. INTRODUCTION

The Uno ID Card Printer is equipped with a standard 8-bit Centronics-type parallel data communications port. This is the means by which the printer receives data from your computer. No options for serial data are available. This chapter describes the pin assignments, protocol, and signal specifications for the parallel data input port.

II. CENTRONICS-TYPE PARALLEL INTERFACE

The Centronics-type parallel interface is the most widely used printer interface due to its simplicity, speed, and standardization throughout the PC industry. The printer's parallel interface connector is a standard 36-pin Amp type with two metal-wire retaining clips and is ECP (Extended Capabilities Port) compatible. It mates with a shielded, bi-directional PC to printer parallel cable. Try to keep the interface cable to under 6 feet if possible.

Pin assignments are as follows:

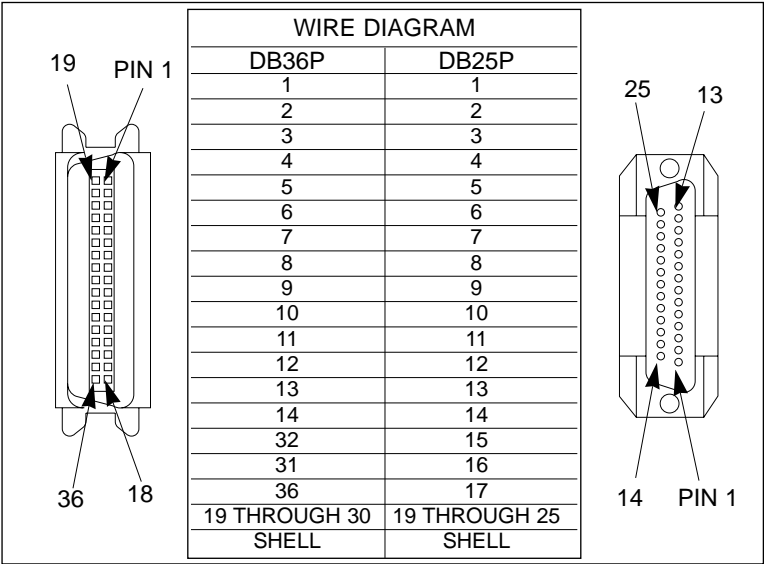


TABLE B-1: Parallel Interface Pin Assignments

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